

FACT SHEET FOR NPDES PERMIT WA-003205-1 BRIGHTWATER CONVEYANCE SYSTEM PROJECT

This fact sheet is a companion document to National Pollutant Discharge Elimination System (NPDES) Permit No. WA-003205-1. This permit is issued to the King County Department of Natural Resources and Parks (DNRP), Wastewater Treatment Division to allow the discharge of stormwater and uncontaminated dewatering water associated with construction activity from the Brightwater Conveyance System Project's construction activities to Sammamish River, Little Swamp Creek, Lyon Creek, and Puget Sound. This fact sheet establishes the basis for requirements which are included in the permit.

GENERAL INFORMATION

Applicant:	King County DNRP, Wastewater Treatment Division 201 S. Jackson Street, Suite 503 Seattle, Washington 98104
Site Name and Address:	Four portals, Safety Relief Point (SRP), Connector Segments, and 16 miles of underground tunnels from SR-9 and SR-522, west across King County and the Snohomish County/King County border to Point Wells on Puget Sound
Type of Facility:	Construction Activity
Receiving Water:	(i) Conveyance Channel/Sammamish River (ii) Little Swamp Creek/Swamp Creek (iii) Lyon Creek (iv) Puget Sound (v) Sammamish River (SRP Site)
Water Body ID Number:	(i) WA-08-1080 (ii) WA-08-1060 (iii) WA-08-1040 (iv) WA-PS-0230 (v) WA-08-1050

TABLE OF CONTENTS

INTRODUCTION	3
BACKGROUND	3
DESCRIPTION OF THE PROJECT	3
OVERVIEW	3
KEY ELEMENTS OF THE BRIGHTWATER CONVEYANCE SYSTEM.....	4
CONSTRUCTION.....	5
DESCRIPTION OF THE RECEIVING WATERS.....	5
LAKE WASHINGTON	6
SAMMAMISH RIVER	7
LITTLE SWAMP CREEK/SWAMP CREEK	7
LYON CREEK	7
PUGET SOUND	7
PROPOSED DISCHARGES	8
PROPOSED PERMIT LIMITATIONS.....	9
TECHNOLOGY-BASED EFFLUENT LIMITATIONS	9
SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS.....	10
MIXING ZONES.....	10
SURFACE WATER QUALITY CRITERIA	11
MONITORING REQUIREMENTS	11
LAB ACCREDITATION	13
OTHER PERMIT CONDITIONS	13
REPORTING AND RECORDKEEPING	13
STORMWATER POLLUTION PREVENTION PLAN FOR CONSTRUCTION ACTIVITIES.....	13
GENERAL CONDITIONS	14
PERMIT ISSUANCE PROCEDURES	14
PERMIT MODIFICATIONS	14
RECOMMENDATION FOR PERMIT ISSUANCE	15
REFERENCES FOR TEXT AND APPENDICES.....	15
APPENDIX A—PUBLIC INVOLVEMENT INFORMATION.....	16
APPENDIX B—DEFINITIONS	17
APPENDIX C—SITE MAPS	22
APPENDIX D—COMMENTS AND RESPONSES.....	25

INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES) system of permits, which is administered by the Environmental Protection Agency (EPA). EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW, which defines the Department of Ecology's authority and obligations in administering the Wastewater Discharge Permit Program.

Regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty (30) days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review. Details on the public notice procedures are contained in Appendix A of the fact sheet. Definitions for both the permit and fact sheet are contained in Appendix B of the fact sheet.

The draft permit and fact sheet were reviewed by the Permittee. Errors and omissions identified in this review were corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. Comments, responses, and the resultant changes to the permit and fact sheet will be summarized in Appendix D. Parties that submit comments will receive a copy of the final permit and fact sheet.

BACKGROUND

DESCRIPTION OF THE PROJECT

OVERVIEW

King County is proposing to construct a new wastewater treatment plant and conveyance system, called Brightwater, to serve the regional wastewater needs of north King and south Snohomish County. The project will provide additional sewer conveyance and wastewater treatment capacity, preserve regional water quality, and protect public health and the environment. The subject of this permit is the conveyance system and is specific to construction stormwater and uncontaminated groundwater dewatering water that will be discharged to waters of the state.

The conveyance system includes an influent tunnel that will convey sewage from the service area to the wastewater treatment plant site for processing and an effluent tunnel which will convey treated effluent from the plant site to Puget Sound for discharge via a marine outfall. The effluent tunnel will be located in a corridor that extends southwest from the treatment plant site along SR-522 to NE 195th Street in King County and then follows NE 195th Street to Ballinger Way NE. The effluent corridor then runs northwest along Ballinger Way NE to NE 205th Street and then follows NE 205th Street to the marine outfall near Point Wells, west of the city of Shoreline and the town of Woodway.

The influent corridor will extend 6.6 miles along existing rights-of-way and established roadways. An additional 1.2 miles of trunk connector pipes will also be installed as part of the influent pipe system and include the North Creek Connector Segment and the Swamp Creek Connector Segment. An influent pump station (IPS) at the North Creek Portal is needed to pump the sewage from the tunnel to the wastewater treatment plant (WWTP) for treatment and disinfection.

The effluent corridor will convey treated effluent 12.8 miles from the WWTP to an outfall in Puget Sound. The eastern 4.8 miles of the effluent pipeline, from the WWTP site to the North Creek Portal, will be placed in the same tunnel as the influent pipeline. From the North Creek Portal, the pipeline will extend west and northwest in a separate tunnel to Point Wells.

KEY ELEMENTS OF THE BRIGHTWATER CONVEYANCE SYSTEM

The conveyance system includes portals, tunnels, pipelines, connector segments, influent pump station, and marine outfall.

Portals. Portals are vertical access shafts to be used during construction of the tunnel as well as for post-construction access points for operation and maintenance activities. The Brightwater Conveyance System will have above grade construction activities and permanent structures at four portal sites and the Safety Relief Point (SRP) site near the Sammamish River. The four portal sites, from east to west, include the North Creek Portal, North Kenmore Portal, Ballinger Way Portal, and Point Wells Portal. Construction activities at the four portal sites include deep portal excavation, portal construction, tunneling or soil mining for conveyance piping between portals, tunnel lining, and installation of permanent facilities.

Tunnels. The total tunnel length (influent, combined, and effluent) is 15.9 miles. The vast majority of conveyance system will be constructed as deep, underground tunnels.

Connector Segments. The North Creek Connector will convey flows from the North Creek Pump Station north to the influent structure at the North Creek Portal Site. This connector segment will be a minimum 64-inch diameter pipe, approximately 2,500 feet in length and mostly follow the right-of-way of the North Creek Parkway. The majority of the connector will be constructed using microtunneling, except for a short reach that will be open cut. The Swamp Creek Connector will be a new 36-inch diameter gravity flow pipe that will be used to convey sewage from the existing Swamp Creek trunk sewer to the influent tunnel at the North Kenmore portal site. This connector will be approximately 3,300 feet in length and will be constructed using open cut trenching and microtunneling.

Marine Outfall. The marine outfall will be approximately 6,200 feet long, including 1,000 feet on land and 5,200 feet offshore. The discharge depth of the diffuser will be approximately -600 feet Mean Lowest Low Water (MLLW). As stated previously, the subject of this permit is construction stormwater and uncontaminated dewatering water. This permit does not authorize a discharge through the marine outfall. The discharge of WWTP's treated effluent through the marine outfall will be permitted under a different permit once the WWTP construction is nearing completion.

Safety Relief Point (SRP). The SRP facility will serve as a last resort, emergency overflow facility that would discharge sewage to a man-made inlet that connects to the Sammamish River in order to prevent sewage from overflowing onto public and private property. Emergency overflows will only occur if storm-influenced flows were to exceed the regional wastewater system capacity coupled with multiple, redundant and simultaneous equipment and power failures. The probability of a discharge through the SRP is estimated by King County staff at an occurrence interval of 1 event in 100 years. Nonetheless, discharge(s) of sewage through the SRP would be considered violations by the Department of Ecology. The subject of this permit involves construction stormwater and uncontaminated dewatering water associated with the construction of this facility only.

CONSTRUCTION

The 15.9 miles of conveyance system will be constructed in phases. The first phase of construction will involve construction at the North Creek and North Kenmore portals and the associated mining activities. Staging activities will occur at the portal sites and will generally occur on existing impervious surfaces.

DESCRIPTION OF THE RECEIVING WATERS

The primary and secondary water bodies that will receive direct and indirect runoff from the proposed conveyance system include the Sammamish River, Lake Washington, Swamp Creek, Little Swamp Creek, Lyon Creek, and Puget Sound (Appendix C—Figure 1).

Table 1 presents a summary of the receiving water quality characteristics in the Brightwater Conveyance Project vicinity, including both class-based and use-based classifications according to Ecology's former and revised Surface Water Quality Standards (WAC 173-201A). EPA has not yet approved Ecology's revised use-based surface water quality standards. Table 2 includes water quality impairment reflected in the 1998 and draft 2002/2004 303(d) list of impaired and threatened water bodies.

Table 1: Ecology Previous and Revised Water Quality Characteristics of Receiving Waters Along the Brightwater Conveyance Project Corridor (Revised WAC 173-201A).

Receiving Water Body	Portal/Facility	Use Designations (Ecology 2003)	Classification (Ecology 1997)
Lake Washington (secondary)	Ballinger Way & SRP	Salmon and trout spawning, core rearing, and migration; extraordinary primary contact recreation; and all other water supply and miscellaneous uses	Class AA Freshwater (extraordinary)
Sammamish River	North Creek & SRP	Salmon and trout spawning, core rearing, and migration; extraordinary primary contact recreation; and all other water supply and miscellaneous uses	Class AA Freshwater (extraordinary)
Swamp Creek & Little Swamp Creek	North Kenmore	Salmon and trout spawning, core rearing, and migration; extraordinary primary contact recreation; and all other water supply and miscellaneous uses	Class AA Freshwater (extraordinary)
Lyon Creek	Ballinger Way	Salmon and trout spawning, core rearing, and migration; extraordinary primary contact recreation; and all other water supply and miscellaneous uses	Class AA Freshwater (extraordinary)
Puget Sound – South Central	Point Wells	Extraordinary aquatic life uses; shellfish harvesting; primary contact recreation; and all other miscellaneous uses	Class AA Marine (extraordinary)

Table 2. Ecology's 1998 and draft 2002/2004 303(d) list of impaired surface water bodies along the Brightwater Conveyance Project Corridor (Ecology 1998 and Ecology 2004).

Water Body	Approved 1998 303(d) List (Ecology 1998)	Draft 2002/2004 303(d) List and Associated Pollutants (Category 5 Listings) (Ecology 2004)
Lake Washington	Fecal coliform bacteria	Fecal coliform and ammonia and sediments
Sammamish River	Temperature, pH, fecal coliform bacteria, dissolved oxygen	Dissolved oxygen, temperature and fecal coliform bacteria (water)
Swamp Creek	Fecal coliform bacteria, dissolved oxygen	Fecal coliform bacteria, dissolved oxygen, and temperature(water)
Lyon Creek	Fecal coliform	Fecal coliform bacteria (water)
Puget Sound – South Central	Ammonia-N, fecal coliform bacteria, pH	Fecal coliform bacteria (water) Numerous parameters (sediment)

LAKE WASHINGTON

Lake Washington has a drainage area of 472 square miles and a surface area of 21,500 acres. Lake Washington is not a primary receiving water body for any of the portal sites but is a secondary receiving water body for several of the sites. The discharge point for the SRP is very close to the mouth of the Sammamish River and consequently Lake Washington. The overall water quality of Lake Washington is good, and the lake is characterized as mesotrophic. Lake Washington is on Ecology's year 2002 303(d) list of water quality impaired waters for fecal coliform bacteria, ammonia, and sediments.

SAMMAMISH RIVER

The Sammamish River is approximately 13.8 miles long and flows north and west from Lake Sammamish before it enters the northeast end of Lake Washington at the city of Kenmore. The River is the outlet of Lake Sammamish. The Sammamish River is the receiving water body for the North Creek Portal and the SRP facility.

Water quality near the river's mouth at Lake Washington is degraded by warm temperatures, high fecal coliform bacteria concentrations, high turbidity, suspended solids, and low dissolved oxygen concentrations. The Sammamish River is on the 1998 303(d) list for fecal coliform bacteria, dissolved oxygen, pH, and temperature. The Sammamish River is on the year 2002 303(d) list for fecal coliform bacteria, dissolved oxygen, and temperature.

LITTLE SWAMP CREEK/SWAMP CREEK

Little Swamp Creek originates near the King County and Snohomish County line just west of Highway 527. Little Swamp Creek flows southwest for approximately one mile and ends at Swamp Creek. The junction between Little Swamp Creek and Swamp Creek is just north of the business district of the city of Kenmore. Downstream of NE 203rd Street, Little Swamp Creek has been ditched and straightened so that it now flows in two parallel roadside ditches along 80th Avenue NE. The ditch to the west of 80th Avenue NE conveys the majority of the flow and the ditch to the east of 80th Ave NE flows intermittently. At the North Kenmore Portal Site, on-site drainage flows overland to the wetland on the west side of the property and then to the ditch located on the east side of 80th Avenue NE. The 2002/2004 303(d) list for Swamp Creek includes fecal coliform bacteria, dissolved oxygen, and temperature.

LYON CREEK

Lyon Creek originates in a wetland in south Snohomish County and flows south through the cities of Mountlake Terrace, Brier, and Lake Forest Park. The main stem of the creek is 3.8 miles in length with a drainage basin of approximately 2,600 acres. The Lyon Creek drainage basin is highly urbanized consisting of 66 percent residential, 5 percent commercial, less than one percent industrial, and 29 percent open space, parks, or forests. Lyon Creek is on Ecology's 2002/2004 and the 1998 303(d) lists of impaired waters for fecal coliform bacteria.

PUGET SOUND

Puget Sound is an exceptional marine water body assigned the highest degree of water quality protections per WAC 173-201A. Ecology has listed South-Central Puget Sound and the East Passage on the 1998 303(d) list for exceeding ammonia-N, pH, and fecal coliform criteria for marine water. However, on the draft 2002/2004 303(d) list, ammonia-n and pH are not listed parameters.

PROPOSED DISCHARGES

The types of discharges to receiving waters that can be expected from the Brightwater Conveyance Construction Project include runoff from construction areas (i.e. portal locations and connector segment areas) and dewatering discharges from portal excavation areas, mining operations, trench excavations, and microtunnel jacking/receiving pits. The discharges will be conveyed to a receiving water via contractor piping or existing storm drainage infrastructure. A brief description of the construction site discharges are described below.

North Creek Portal

The point of discharge for stormwater and groundwater dewatering will be at the eastern side of the site into the Bothell Quadrant Business Park stormwater conveyance channel. The conveyance channel flows into the Sammamish River.

North Kenmore Portal

The point of discharge for stormwater will be into the east stem of Little Swamp Creek.

Ballinger Way Portal

The point of discharge for stormwater will be into a 12-inch concrete storm drain maintained by the City of Shoreline. This storm drain increases in size to 18-inch concrete pipe at the intersection of Ballinger Way and 19th Avenue NE. The storm drain outfall discharges to Lyon Creek.

Point Wells

The point of discharge for stormwater will be directly to Puget Sound.

Safety Relief Point

The point of discharge for stormwater will be directly into the Sammamish River.

North Creek Connector Segment

Several points of discharge are referenced including discharges to the stormwater conveyance channel east of the North Creek Portal site, the City of Bothell stormwater system, and a drainage swale near I-405 (see Appendix C—Figure 2). The ultimate receiving water for these discharges is the Sammamish River. The majority of the discharges associated with the North Creek Connector segment work consist of stormwater and dewatering discharges to the City of Bothell's stormwater system.

Swamp Creek Connector Segment

Several points of discharge are referenced including direct discharges to Swamp Creek and Swamp Creek tributaries as well as indirect discharges to Swamp Creek via the City of Kenmore's storm sewer system (see Appendix C—Figure 3).

PROPOSED PERMIT LIMITATIONS

Federal and state regulations require that effluent limitations set forth in an NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC), or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Discharges of stormwater must meet all applicable provisions of Sections 301 and 402 of the Clean Water Act (CWA). These provisions require control of pollutant discharges to a level equivalent to Best Available Technology Economically Achievable (BAT) for toxic and unconventional pollutants, and Best Conventional Pollutant Control Technology (BCT) for conventional pollutants, and any more stringent limitations necessary to meet water quality standards. In addition, state law requires discharges to apply all known available and reasonable methods of prevention and treatment (AKART) to prevent and control the pollution of the waters of the state of Washington. State law also requires any other more stringent limitations necessary to meet all applicable state standards.

The sand and gravel industry is engaged in significant land disturbing activities, such as earth movement, excavation, mining, and washing and sorting of aggregate. In 1994, a new Sand and Gravel General Permit was developed by Ecology in which a discharge limit of 50 NTU for turbidity, via conventional sedimentation, was established. Over the last nine years this similar source category has demonstrated the 50 NTU limit to be achievable.

In 1998, Ecology first issued an Individual Construction Stormwater Permit which was based on the general permit but also required discharge monitoring. A review of available data from eight individual construction stormwater permitted facilities showed that less than 10 percent of the discharge data failed to meet 50 NTU. Therefore, a technology-based effluent limitation for turbidity of 50 NTU, for conventional sedimentation, is being established for this permit.

If the Permittee has difficulty meeting the technology-based limit for turbidity of 50 NTU or the water quality-based limit through conventional sedimentation, then the Permittee may elect to use enhanced treatment (i.e. chemical treatment or sand filtration) to meet these limits or discharge to ground water via on-site soil infiltration beds or surface soils at the upland discharge area.

For chemical treatment, a study conducted by Minton and Benedict for the City of Redmond concluded that effluent turbidities of 5 NTU and lower are achievable. An AKART determination by the Department of Ecology has resulted in a 5 NTU limit for chemical treatment. As a result, the Port of Seattle's Sea-Tac individual construction stormwater

NPDES currently has a 5 NTU limit for turbidity when **chemical treatment systems are employed**.

The permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) which includes Best Management Practices (BMPs) to prevent the pollution of stormwater and to reduce the amount of pollutants discharged. Development of an adequate SWPPP and full implementation of BMPs constitutes implementation of AKART.

The Permittee is required to use the Department of Ecology's August 2001 Stormwater Management Manual for Western Washington (SWMM), or an equivalent manual, to make a judgment of which BMPs are necessary to achieve compliance with the AKART requirements of state law. The SWPPP must include a description of stabilization and structural practices to be used at the site to minimize erosion and the movement of sediments on and from the site. The SWPPP will be submitted to the Department for review.

The discharge of process wastewater, domestic wastewater, or noncontact cooling water to a storm drain or surface waters is prohibited. Illicit discharges are not authorized, including spills of oil or hazardous substances, and obligations under state and federal laws and regulations pertaining to those discharges apply.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

The stormwater discharges associated with construction activity allowed under this permit are subject to all applicable state water quality and sediment management standards. The permit does not authorize the violation of those standards. The Department expects that the selection and implementation of appropriate BMPs outlined in the *SWMM*, or equivalent manuals, will result in compliance with standards for stormwater discharges from construction sites. Erosion and sediment control planning guidance and design criteria for BMPs to control stormwater runoff quantity, erosion and sediments as well as other pollutants are provided in the *SWMM*.

When the construction site is not in compliance with these standards, the Permittee shall take immediate action(s) to achieve compliance by implementing additional BMPs and/or improved maintenance of existing BMPs.

MIXING ZONES

The water quality standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known available and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100. The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

A mixing zone has not been specified nor established in the permit for any of the conveyance project's outfalls.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA, 1992). Pollutants that might be expected in the discharge from construction activity are: turbidity, pH, and petroleum products.

The water quality standards for turbidity and pH for Class AA waters are:

Turbidity: shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

pH: shall be within the range of 6.5 to 8.5 (freshwater) or 7.0 to 8.5 (marine water) with a human-caused variation within that range of less than 0.2 standard units.

Although there is no specific water quality standard for petroleum products, the hazardous waste rules under RCW 90.56 have been interpreted under RCW 90.48 to disallow visible sheen.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the BMPs are functioning correctly and that the water quality criteria are not being violated in the receiving water.

Erosion potential and discharge of pollutants from construction sites is more closely correlated to rainfall intensity than the amount of rain in a 24-hour period. Light rain throughout a 24-hour period does not generate the pollution potential of a short duration high intensity storm event. The Industrial Stormwater General Permit, issued in August 2002, established monitoring requirements that set a storm event trigger of "greater than 0.1 inches in a 24-hour period." The Washington State Department of Transportation has recognized the limitations of only monitoring 0.5-inch storm events and now more commonly uses 0.25 in their monitoring plans. The 0.5-inch rain event trigger that has been used over the past 4 or 5 years has proven to be inadequate to determine water quality compliance for short duration/high intensity storm events.

A storm event monitoring trigger of 0.25 inches will allow for better compliance determinations and therefore this permit establishes a monitoring trigger for all storm events greater than or equal to 0.25 inches in a 24-hour period.

The Department is well experienced with finding points of compliance with the state turbidity standard. The Department has successfully established point of compliance at Redmond Ridge UPD, Skagit Highlands, and Sound Transit. Also, five companion orders to the Stormwater Construction General Permit and the Sand and Gravel General Permit successfully established points of compliance with the 5 NTU over background standard for turbidity.

The Department will establish the point of compliance in the receiving water through the review and approval of the Construction Stormwater/Dewatering Monitoring Plan required in Special Condition S3.A.

In August 2003, the Pollution Control Hearings Board's decision on Ecology's Industrial Stormwater General Permit stated, "To demonstrate water quality violations for temperature, pH and turbidity, it is necessary to know the water quality of the receiving waters." To demonstrate compliance with these parameters, upstream and downstream in-water monitoring, in addition to the point of discharge, is stipulated for monitoring these parameters.

Ecology's Industrial Stormwater General Permit states, "New facilities that discharge either directly or indirectly via a stormwater conveyance system to waters listed as impaired by the State under Section 303(d) of the Clean Water Act must comply with the State's water quality standards of the named pollutants at the point of discharge." Parameters listed on the 2002 year 303(d) list for surface waters and marine waters pertaining to the conveyance system project include fecal coliform bacteria, dissolved oxygen, ammonia, and temperature. Of these parameters, fecal coliform bacteria and ammonia are not typical parameters of concern associated with construction stormwater and dewatering waters.

The Sammamish River and Swamp Creek are listed on the 1998 year and the 2002/2004 year 303(d) lists for dissolved oxygen. Groundwater is typically low in dissolved oxygen concentration. In order to ensure that the dewatering waters do not cause dissolved oxygen problems in the receiving water, dissolved oxygen in the dewatering water discharge will be monitored at all of the portal locations. Clean groundwater dewatering waters shall not be commingled with the stormwater treatment systems in order to avoid hydraulically overwhelming these treatment systems. Temperature is listed on the 1998 and 2002/2004 303(d) lists for the Sammamish River and Swamp Creek (2002/2004 303(d) list only). In order to verify that temperature is not causing problems in these waterbodies, temperature monitoring from the stormwater discharge will be required during the warm weather period of July 1 – September 30. In the past, Lake Washington has experienced algal problems associated with nutrients such as phosphorus. To prevent such nuisance conditions, phosphorus will be monitored at the discharge point to the receiving water body.

The Point Wells Portal is located adjacent to the Chevron property which has experienced extensive petroleum hydrocarbon contamination in the soil and ground water. In order to prevent a release of these contaminants to the marine environment or groundwaters at a different location, monitoring of the dewatering water discharge associated with the open cut trenching for the on-shore pipeline construction and the portal construction and associated facilities will be required. At the time of writing this permit, on-site investigations have not been performed for the Brightwater project site area and therefore, Ecology has taken the approach that these same contaminants are present at the project site and need to be monitored. The existing Chevron Point Wells LUST Site Remediation NPDES Permit (WA-003170-4) provides the basis for the effluent limitations and monitoring in this permit.

Measures shall be taken to prevent the introduction of process water or wastewater into stormwater and measures to verify that process water and wastewater discharges do not enter the stormwater treatment system. In order to avoid hydraulically overloading the stormwater treatment systems, clean, non-turbid, uncontaminated groundwater dewatering waters shall not be conveyed to the stormwater treatment systems. Standing sump water and other turbid water shall be conveyed and treated separately from any clean groundwater dewatering waters. Sump water and other turbid waters shall be conveyed to a sediment pond for treatment, or if they meet the effluent limitations, can be conveyed to the upland discharge area for discharge to ground water via soil. If on-site infiltration basins are used, the soil suitability shall be ascertained, via a geotechnical study, to verify the adequacy of the soils to accept the turbid stormwater.

The Permittee is required to submit a Construction Stormwater/Dewatering Monitoring Plan three (3) months prior to the start of construction, with annual updates on or before October 1st of each year. The purpose of the monitoring plan is to assess compliance with the water quality standards in each water body that will receive stormwater discharge during the following year.

LAB ACCREDITATION

Laboratories used to prepare monitoring data shall be registered or accredited under the provisions of *Accreditation of Environmental Laboratories*, Chapter 173-50 WAC. Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement. Conductivity, turbidity, and pH may be measured in the field with properly calibrated meters.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S4 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

STORMWATER POLLUTION PREVENTION PLAN FOR CONSTRUCTION ACTIVITIES

Special Condition S6 requires a SWPPP for construction activity, including construction dewatering, to be prepared and implemented prior to the commencement of construction activity. The objectives of a SWPPP for construction activities are: 1) Implement BMPs to minimize erosion and sediments from rainfall runoff at construction sites, and to identify, reduce, eliminate, or prevent the pollution of stormwater; 2) Prevent violations of surface water quality, groundwater quality, or sediment management standards; 3) Prevent, during the construction phase, adverse water quality impacts including impacts on beneficial uses of receiving water by controlling peak rates and volumes of stormwater at the Permittee's outfalls and downstream of outfalls; and 4) Eliminate the discharges of unpermitted process wastewater, domestic wastewater, illicit discharges, and noncontact cooling water to stormwater drainage systems and waters of the state.

A Spill Prevention and Emergency Cleanup Plan shall be included as a section in the SWPPP. BMP S1.80 in Volume IV of Ecology's *Stormwater Management Manual for Western Washington* (SWMM) shall be used for guidance in developing this plan.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending, or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 prohibits the Permittee from using the permit as a basis for violating any laws, statutes, or regulations. Conditions G6 and G7 relate to permit renewal and transfer. Condition G8 prohibits the reintroduction of removed substances back into the effluent. Condition G9 states that the Department will modify or revoke and reissue the permit to conform to more stringent toxic effluent standards or prohibitions. Condition G10 incorporates by reference all other requirements of 40 CFR 122.41 and 122.42. Condition G11 notifies the Permittee that additional monitoring requirements may be established by the Department. Condition G12 requires the payment of permit fees. Condition G13 describes the penalties for violating permit conditions. Condition G14 states that the permit does not convey any property rights or any exclusive privilege. Condition G15 requires compliance with all conditions of this permit. Condition G16 requires compliance with effluent standards for toxic pollutants. G17 provides under the Clean Water Act that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device is subject to penalties and/or imprisonment. Condition G18 requires the Permittee to give prior notice to the Department of planned changes to facility production or processes. Condition G19 establishes the requirement to provide advance notification to the Department of anticipated noncompliance. Condition G20 requires the submittal of any relevant facts determined to have been omitted in original permit application. Condition G21 establishes compliance schedule reporting.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary, to meet water quality standards for surface waters, sediment quality standards, or water quality standards for ground waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations. The permit may be modified, in the future, if additional studies, investigations, or information warrant modification of the terms or conditions of the permit.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a stormwater and construction dewatering discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this proposed permit be issued for five (5) years to coincide with the Cedar/Green Water Quality Management Area permit issuance cycle.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

- 1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.
- 1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.
- 1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.
- 1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

King County

- 2004. Brightwater Conveyance System Master Construction Stormwater Pollution Prevention Plan.

Minton, G.R., and A. Benedict

- 1999. Stormwater Treatment. "Polymer-assisted clarification of stormwater from construction sites, Resource Planning Associates, for the City of Redmond, Washington."

Washington State Department of Ecology

- 1994. Permit Writer's Manual. Publication Number 92-109.

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to issue an individual construction stormwater NPDES permit to the Brightwater Conveyance System Project. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public Notice of Application (PNOA) was published on August 7, 2004, and August 14, 2004, in the *Seattle Times* and *Everett Herald* to inform the public that an application had been submitted and to invite comment on the issuance of this permit.

The Department published a Public Notice of Draft (PNOD) on _____, 2004, in the *Seattle Times/P.I.* and *Everett Herald* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30)-day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (425) 649-7103, or by writing to the address listed above.

This permit and fact sheet were written by Mark C. Henley, P.E.

APPENDIX B—DEFINITIONS

Best Management Practices (BMPs - general definition) means schedules of activities; prohibitions of practices; maintenance procedures; and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks; sludge or waste disposal; or drainage from raw material storage. In this permit, BMPs are further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Bypass means the diversion of waste streams from any portion of a treatment facility.

Clean Water Act (CWA) means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; USC 1251 et seq.

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinance.

Constructed Wetland means wetlands intentionally created, on sites that are not natural wetlands, for the primary purpose of wastewater or stormwater treatment and managed as such. Constructed wetlands are normally considered as part of the stormwater collection and treatment system.

Construction Activity means clearing, grading, excavation, and any other activity which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Construction Dewatering means the act of pumping ground water or stormwater away from an active construction site.

Detention means the temporary storage of stormwater to improve quality and/or to reduce the mass flow rate of discharge.

Director means the Director of the Washington State Department of Ecology or his/her authorized representative.

Discharger means an owner or operator of any facility or activity subject to regulation under Chapter 90.48 RCW or the Federal Clean Water Act.

Domestic Wastewater means water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such ground water infiltration or surface waters as may be present.

Ecology means the Washington State Department of Ecology.

Equivalent BMPs means operational, source control, treatment, or innovative BMPs which result in equal or better quality of stormwater discharge to surface water or to ground water than BMPs selected from the SWMM.

Equivalent Stormwater Management Manual means a manual that has been deemed by Ecology as being equivalent to the SWMM.

Erosion means the wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

Erosion and Sediment Control BMPs means BMPs that are intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, filter fences, and sediment traps and ponds. Erosion and sediment control BMPs are synonymous with stabilization and structural BMPs.

Erosion and Sediment Control Plan means a document which describes the potential for erosion and sedimentation problems, and explains and illustrates the measures which are to be taken to control those problems.

Final Stabilization means the completion of all soil disturbing activities at the site and the establishment of a permanent vegetative cover, or equivalent permanent stabilization measures (such as riprap, gabions or geotextiles) which will prevent erosion.

"40 CFR" means Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

Ground Water means water in a saturated zone or stratum beneath the land surface or a surface water body.

Illicit discharge means any discharge that is not composed entirely of stormwater except discharges pursuant to an NPDES permit and discharges resulting from fire fighting activities.

Leachate means water or other liquid that has percolated through raw material, product or waste and contains substances in solution or suspension as a result of the contact with these materials.

Local Government means any county, city, or town having its own government for local affairs.

Municipality means a political unit such as a city, town or county; incorporated for local self-government.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure and container from which pollutants are or may be discharged to surface waters of the state. This term does not include return flows from irrigated agriculture. (See fact sheet for further explanation.)

Pollutant means the discharge of any of the following to waters of the state: dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste. This term does not include sewage from vessels within the meaning of Section 312 of the FWPCA, nor does it include dredged or fill material discharged in accordance with a permit issued under Section 404 of the FWPCA.

Pollution means contamination or other alteration of the physical, chemical, or biological properties of waters of the state; including change in temperature, taste, color, turbidity, or odor of the waters; or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare; or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish or other aquatic life.

Process Wastewater means any water which, during manufacturing or processing, comes into direct contact or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Puget Sound Basin means the Puget Sound south of Admiralty Inlet (including Hood Canal and Saratoga Passage); the waters north to the Canadian border, including portions of the Strait of Georgia; the Strait of Juan de Fuca south of the Canadian border; and all the lands draining into these waters as mapped in Water Resources Inventory Areas numbers 1 through 19, set forth in WAC 173-500-040.

Sanitary Sewer means a sewer which is designed to convey domestic wastewater.

Sediment means the fragmented material that originates from the weathering and erosion of rocks or unconsolidated deposits, and is transported by, suspended in, or deposited by water.

Sedimentation means the depositing or formation of sediment.

SEPA (State Environmental Policy Act) means the Washington State Law, RCW 43.21C.020, intended to prevent or eliminate damage to the environment.

Severe Property Damage means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

Significant Amount means an amount of a pollutant in a discharge that is amenable to available and reasonable methods of prevention or treatment; or an amount of a pollutant that has a reasonable potential to cause a violation of surface or ground water quality or sediment management standards.

Significant Contributor of Pollutant(s) means a facility determined by Ecology to be a contributor of a significant amount(s) of a pollutant(s) to waters of the state of Washington.

Significant Materials include, but are not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

Site means the land or water area where any "facility or activity" is physically located or conducted.

Source Control BMPs means physical, structural, or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater. A few examples of source control BMPs are erosion control practices, maintenance of stormwater facilities, constructing roofs over storage and working areas, and directing wash water and similar discharges to the sanitary sewer or a dead end sump.

Stabilization means the application of appropriate BMPs to prevent the erosion of soils, such as temporary and permanent seeding, vegetative covers, mulching and matting, plastic covering and sodding. See also the definition of erosion and sediment control BMPs.

Storm Sewer means a sewer that is designed to carry stormwater. Also called a storm drain.

Stormwater means rainfall and snow melt runoff.

Stormwater Drainage System means constructed and natural features which function together as a system to collect, convey, channel, hold, inhibit, retain, detain, infiltrate, or divert stormwater.

Stormwater Management Manual for Western Washington (SWMM) or Manual means the technical manual revised by Ecology for use by local governments in 2001, or statewide revisions when they become available, that contain descriptions of and design criteria for BMPs to prevent, control, or treat pollutants in stormwater.

Stormwater Pollution Prevention Plan (SWPPP) means a documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of stormwater.

Surface Waters of the State includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state of Washington.

Treatment BMPs means BMPs that are intended to remove pollutants from stormwater. A few examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, and constructed wetlands.

USEPA means the United States Environmental Protection Agency.

Water Quality means the chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

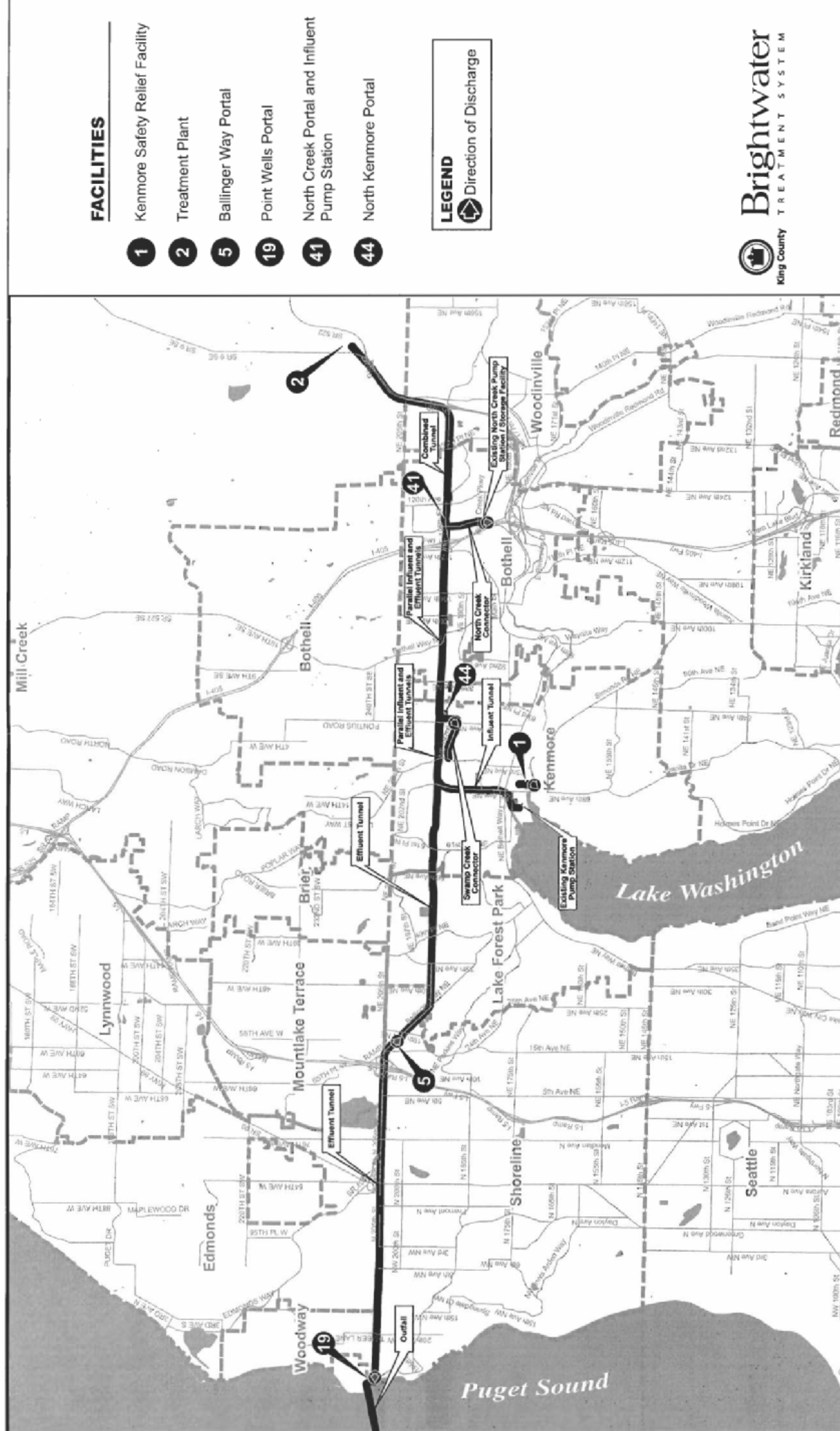
Waters of the State includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the state" as defined in Chapter 90.48 RCW which include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

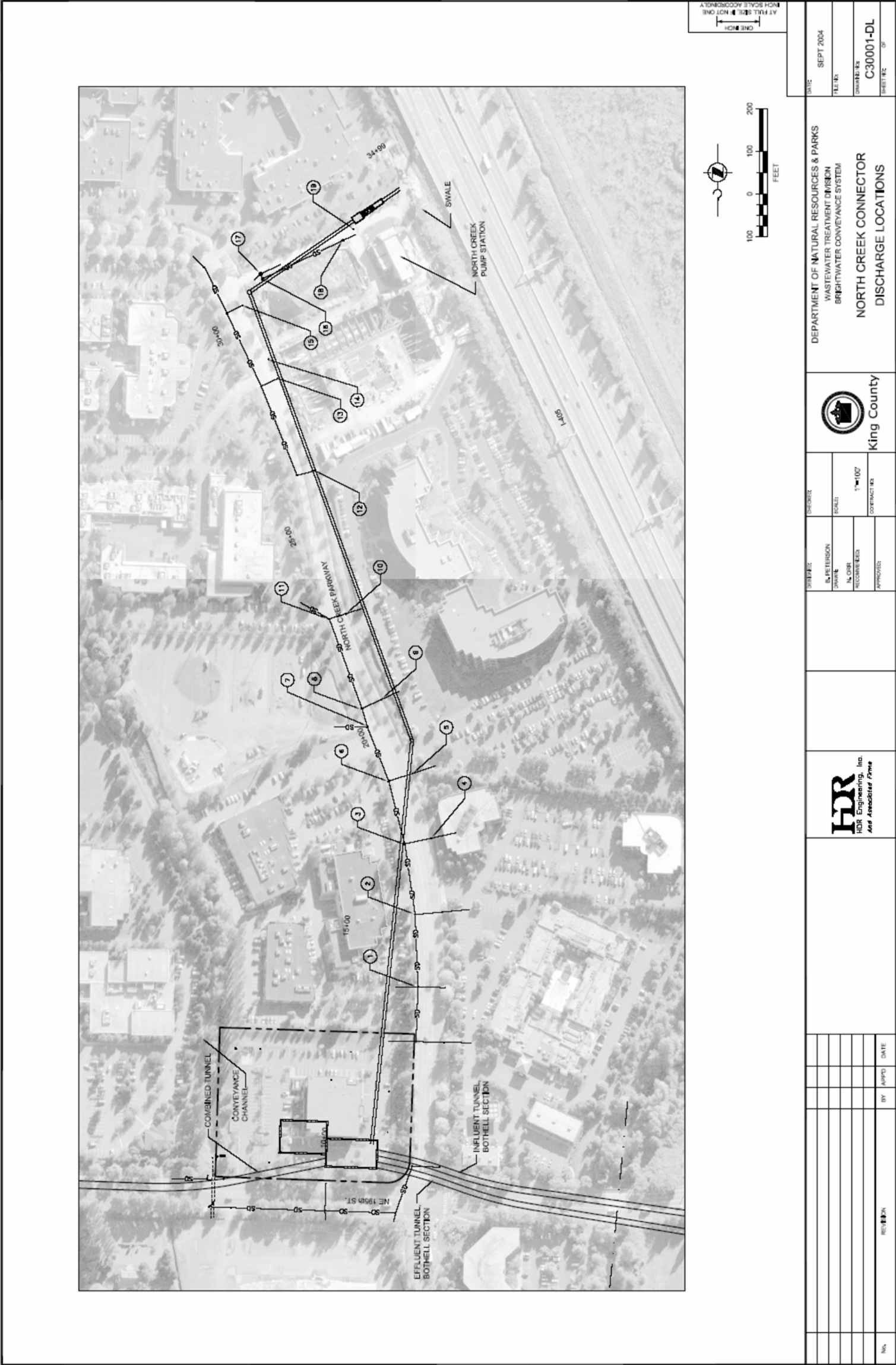
Acronyms

BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response Compensation & Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
EPA	Environmental Protection Agency
ESC	Erosion and Sediment Control
FWPCA	Federal Water Pollution Control Act
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
SEPA	State Environmental Policy Act
SWMM	Stormwater Management Manual for the Puget Sound Basin
SWPPP	Stormwater Pollution Prevention Plan
USC	United States Code
USEPA	United States Environmental Protection Agency
WAC	Washington Administrative Code
WQ	Water Quality

APPENDIX C—SITE MAPS

Figure 1.





APPENDIX D—COMMENTS AND RESPONSES